

7133 Karate Hex

Karate Hex is a game played by two players who alternate playing offense and defense in multiple rounds. In each round the player playing defense holds a hexagonal board with both hands while the player on offense, with a single well-targeted kick, tries to break the board in as many fragments as possible. The number of fragments that the board breaks into determines the score earned by the offensive player.

Boards of different sizes may be used in different rounds but all boards are in the shape of a regular hexagon that is made out of smaller hexagonal cells. Each of the six corners of the board is painted black and the rest of the cells are white. For example, Figure 1 shows a board of size 5.

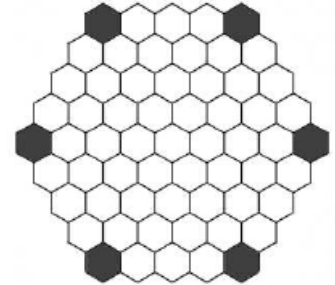


Figure 1.
Karate Hex board of size 5.

It is a little bit of a challenge to represent hexagonal boards in a rectangular coordinate system, such as a text file. One way to do it is to use spaces between characters on the same row and to offset every other row by one character. The size 5 board above can be encoded in a text file like this:

```

    B W W W B
  W W W W W W
 W W W W W W W
W W W W W W W W
B W W W W W W W B
  W W W W W W W
    W W W W W W
      W W W W W
        B W W W B

```

The boards have grooves around the cells so that they will always break in such a way that the cells remain whole. Figure 2 shows what a broken board of size 4 might look like.

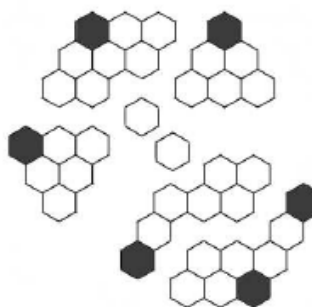


Figure 2. Broken Karate Hex board of size 4.

Note that the orientation of a board fragment is not always obvious. With 60-degree rotation we can generate a total of six possible orientations:

```

W W W  ->  B W    ->  B    ->    B    ->  W        ->  W
B                W        W        W W W        W        W
                W        W                W B        W
                W                B                B

```

Judging in Karate Hex tournaments is often complicated because board fragments are flying all over the place and may be either lost or mixed up with fragments from other games. The International Mixed Martial Arts And Board Games Federation (IMMAABGF) has commissioned a computer program to help with the judging of the game. Given a pile of board fragments the program must determine whether they together form a regulation Karate Hex board.

Input

The input to the program will consist of the different fragments separated by single blank lines. (Note that the text lines defining a fragment may start with space characters. Depending on the number of lines needed to define a fragment, the first line may start with an odd or even number of space characters, but the formatting of the rest of the lines will be consistent with the first one.) The last fragment will be followed by the end-of-file.

Output

Your program is to print a single line with only the word ‘yes’ or the word ‘no’, depending on whether or not the fragments can be assembled into a regulation Karate Hex board. No leading or trailing whitespace is to appear on the output line.

Regulation IMMAABGF boards have sizes between 2 and 6, inclusive. You can also assume that the number of fragments in the input is not more than 12, as the official Karate Hex rules state that boards that break into more than 12 fragments are considered defective and the round is replayed.

Sample Input

```

  B W W
  W W W
W W

  B
  W W
W W W

W

W

W W B
  W W
  W

B W W
  W W
  W W

  B
  W
  W W W
W W B

```

Sample Output

```
yes
```